

VSR Series Single Phase Solid State Relays



Features

- Rating of 15A, 25A, 40A, 60A, 80A, 100A and 120A.
- Output voltage of 24-280VAC, 24-480VAC and 48-660VAC
- Control voltage of 3-32VDC, 18-36VAC/DC, 20-265VAC/DC and 90-280VAC.
- Zero Crossing or Random-on Switching.
- Integrated IP20 touch-safe removable covers.
- Dielectric Strength 4000VACrms.
- LED input status indicator.

Ordering Options

VSR	25	D	A66	Z
VSR Series	Load Current	Control Voltage	Output Voltage	Switching Type
Single Phase	15: 15Amps	D: 3-32VDC	A28: 24-280VAC	Z: Zero Cross Turn-on
Solid State Relay	25: 25Amps	A: 90-280VAC	A48: 24-480VAC	R: Random Turn-on
	40: 40Amps	U: 18-36VAC/DC	A66: 48-660VAC	
	60: 60Amps	G: 20-265VAC/DC		
	80: 80Amps			
	100: 100Amps			
	120: 120Amps			

Product Selection

Control Voltage	Output Voltage	Rated operational current						
		15Amps	25Amps	40Amps	60Amps	80Amps	100Amps	120Amps
3-32VDC	280VAC"Z"	VSR15DA28Z	VSR25DA28Z	VSR40DA28Z	VSR60DA28Z	VSR80DA28Z	VSR100DA28Z	VSR120DA28Z
3-32VDC	280VAC"R"	VSR15DA28R	VSR25DA28R	VSR40DA28R	VSR60DA28R	VSR80DA28R	VSR100DA28R	VSR120DA28R
90-280VAC	280VAC"Z"	VSR15AA28Z	VSR25AA28Z	VSR40AA28Z	VSR60AA28Z	VSR80AA28Z	VSR100AA28Z	VSR120AA28Z
90-280VAC	280VAC"R"	VSR15AA28R	VSR25AA28R	VSR40AA28R	VSR60AA28R	VSR80AA28R	VSR100AA28R	VSR120AA28R
18-36VAC/DC	280VAC"Z"	VSR15UA28Z	VSR25UA28Z	VSR40UA28Z	VSR60UA28Z	VSR80UA28Z	VSR100UA28Z	VSR120UA28Z
18-36VAC/DC	280VAC"R"	VSR15UA28R	VSR25UA28R	VSR40UA28R	VSR60UA28R	VSR80UA28R	VSR100UA28R	VSR120UA28R
20-265VAC/DC	280VAC"Z"	VSR15GA28Z	VSR25GA28Z	VSR40GA28Z	VSR60GA28Z	VSR80GA28Z	VSR100GA28Z	VSR120GA28Z
20-265VAC/DC	280VAC"R"	VSR15GA28R	VSR25GA28R	VSR40GA28R	VSR60GA28R	VSR80GA28R	VSR100GA28R	VSR120GA28R
3-32VDC	480VAC"Z"	VSR15DA48Z	VSR25DA48Z	VSR40DA48Z	VSR60DA48Z	VSR80DA48Z	VSR100DA48Z	VSR120DA48Z
3-32VDC	480VAC"R"	VSR15DA48R	VSR25DA48R	VSR40DA48R	VSR60DA48R	VSR80DA48R	VSR100DA48R	VSR120DA48R
90-280VAC	480VAC"Z"	VSR15AA48Z	VSR25AA48Z	VSR40AA48Z	VSR60AA48Z	VSR80AA48Z	VSR100AA48Z	VSR120AA48Z
90-280VAC	480VAC"R"	VSR15AA48R	VSR25AA48R	VSR40AA48R	VSR60AA48R	VSR80AA48R	VSR100AA48R	VSR120AA48R
18-36VAC/DC	480VAC"Z"	VSR15UA48Z	VSR25UA48Z	VSR40UA48Z	VSR60UA48Z	VSR80UA48Z	VSR100UA48Z	VSR120UA48Z
18-36VAC/DC	480VAC"R"	VSR15UA48R	VSR25UA48R	VSR40UA48R	VSR60UA48R	VSR80UA48R	VSR100UA48R	VSR120UA48R
20-265VAC/DC	480VAC"Z"	VSR15GA48Z	VSR25GA48Z	VSR40GA48Z	VSR60GA48Z	VSR80GA48Z	VSR100GA48Z	VSR120GA48Z
20-265VAC/DC	480VAC"R"	VSR15GA48R	VSR25GA48R	VSR40GA48R	VSR60GA48R	VSR80GA48R	VSR100GA48R	VSR120GA48R
4-32VDC	660VAC"Z"	VSR15DA66Z	VSR25DA66Z	VSR40DA66Z	VSR60DA66Z	VSR80DA66Z	VSR100DA66Z	VSR120DA66Z
4-32VDC	660VAC"R"	VSR15DA66R	VSR25DA66R	VSR40DA66R	VSR60DA66R	VSR80DA66R	VSR100DA66R	VSR120DA66R
90-280VAC	660VAC"Z"	VSR15AA66Z	VSR25AA66Z	VSR40AA66Z	VSR60AA66Z	VSR80AA66Z	VSR100AA66Z	VSR120AA66Z
90-280VAC	660VAC"R"	VSR15AA66R	VSR25AA66R	VSR40AA66R	VSR60AA66R	VSR80AA66R	VSR100AA66R	VSR120AA66R
18-36VAC/DC	660VAC"Z"	VSR15UA66Z	VSR25UA66Z	VSR40UA66Z	VSR60UA66Z	VSR80UA66Z	VSR100UA66Z	VSR120UA66Z
18-36VAC/DC	660VAC"R"	VSR15UA66R	VSR25UA66R	VSR40UA66R	VSR60UA66R	VSR80UA66R	VSR100UA66R	VSR120UA66R
20-265VAC/DC	660VAC"Z"	VSR15GA66Z	VSR25GA66Z	VSR40GA66Z	VSR60GA66Z	VSR80GA66Z	VSR100GA66Z	VSR120GA66Z
20-265VAC/DC	660VAC"R"	VSR15GA66R	VSR25GA66R	VSR40GA66R	VSR60GA66R	VSR80GA66R	VSR100GA66R	VSR120GA66R

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Input Specifications

Description	Specification Limits			
Control Voltage Range	3-32VDC	90-280VAC	18-36VAC/DC	20-265VAC/DC
Maximum Reverse Voltage	-6VDC	/	/	/
Minimum Turn-On Voltage	3VDC	90VAC	18VAC/DC	20VAC
Must Turn-Off Voltage	1V	10VAC	5VAC/DC	5VAC
Minimum Input Current [for on-state]	10mA	6.5mA	5mA AC/4mA DC	5mA
Maximum Input Current [mA]	20mA	18mA	10mA	10mA
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle	1/2 Cycle	1/2 Cycle

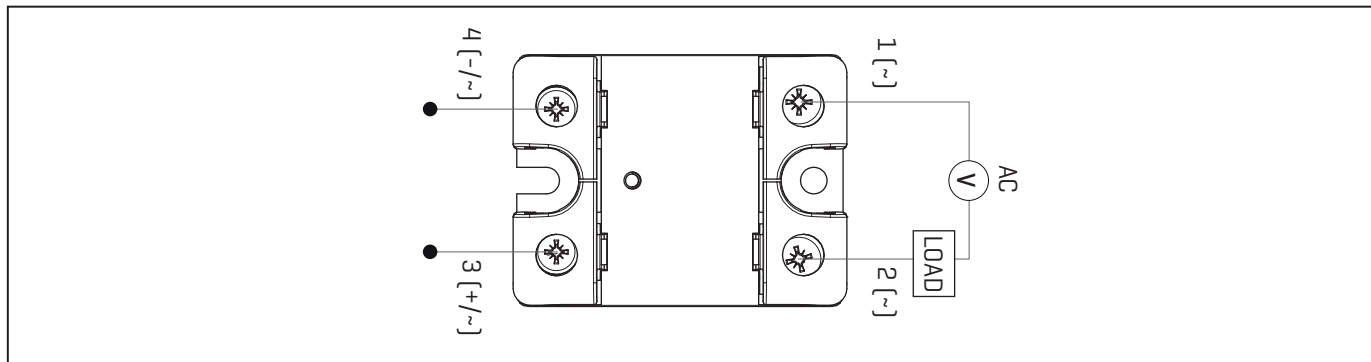
Output Specifications

Description	Units	Specification Limits						
Model No.:VSR	Amp	15	25	40	60	80	100	120
Load Current Range	Arms	0.05-15	0.05-25	0.05-40	0.1-60	0.1-80	0.1-100	0.1-125
Surge Current 10mSec[Max.]	Arms	150	250	400	600	800	1000	1200
Load Voltage Range [280V]	Vrms	24-280						
Transient Overvoltage [280V]	Vpk	800						
Load Voltage Range [480V]	Vrms	24-480						
Transient Overvoltage [480V]	Vpk	1200						
Load Voltage Range [660V]	Vrms	48-660						
Transient Overvoltage [660V]	Vpk	1600						
Operating Frequency Range	Hz	47~63						
Off State dv/dt [min.]	V/μs	200	200	200	500	500	500	500
Off State Leakage Current [Max.]	mA	≤8						
On State Voltage Drop [Max.]	Vrms	1.5	1.5	1.5	1.6	1.6	1.8	1.8
Turn On Time [Max.] "Zero-crossing"	Cycle	1/2						
Turn On Time [Max.] "Random-on"	mSec	1						
Turn-off Time [DC input]	Cycle	1/2						
Turn-off Time [AC input]	mSec	10						
Thermal Resistance,[Rthjc]	°C/W	2.5	2.5	1.3	0.65	0.5	0.3	0.3

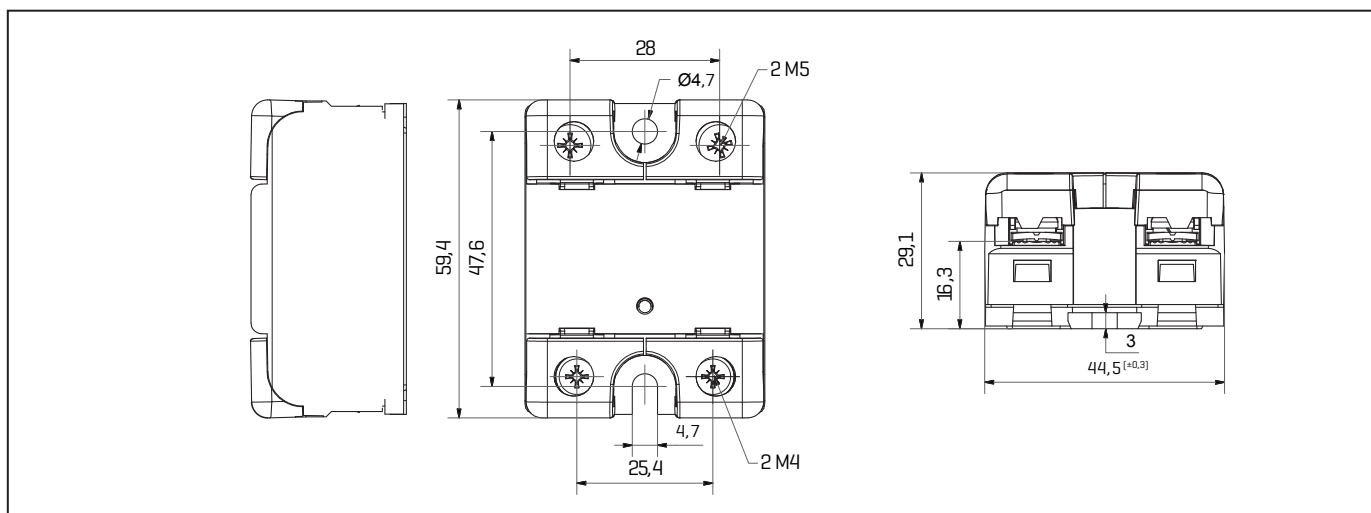
General Specifications [Ta=25 °C]

Description	15A	25A	40A	60A	80A	100A	120A
Dielectric Strength, Input to Output [50/60 Hz]	4000 Vrms						
Dielectric Strength, Input/Output to Base [50/60 Hz]	2500 Vrms						
Minimum Insulation Resistance [@ 500 VDC]	10 ⁹ Ω						
Maximum Capacitance, Input/Output	0.8 pF						
Ambient Operating Temperature Range	-30 to 80 °C						
Ambient Storage Temperature Range	-30 to 100 °C						
Input Terminal Screw Torque Range [in-lb/Nm]	11-18 / 1.2-2.0						
Load Terminal Screw Torque Range [in-lb/Nm]	18-26 / 2-3						
SSR Mounting Screw Torque Range [in-lb/Nm]	11-16 / 1.2-1.8						
Humidity per IEC60068-2-78	95 %						
LED Input Status Indicator	Red						
Housing Material	PBT+30%GF						
Baseplate Material	Pure copper						
Weight	120g						

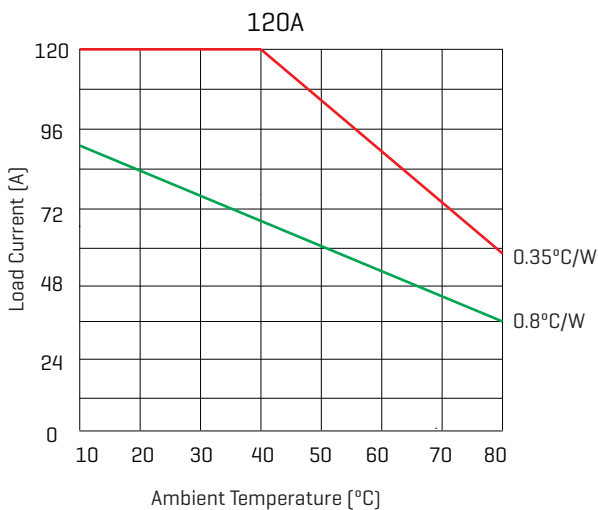
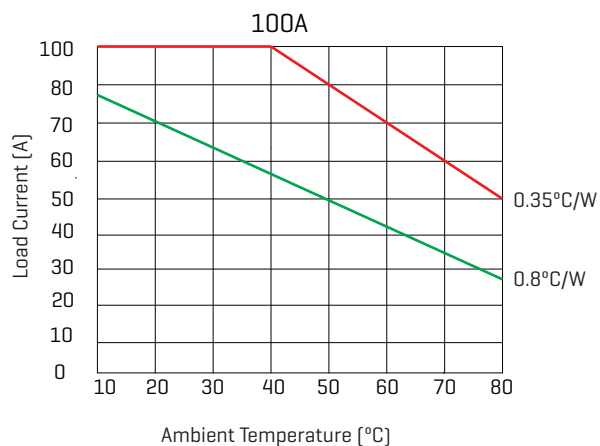
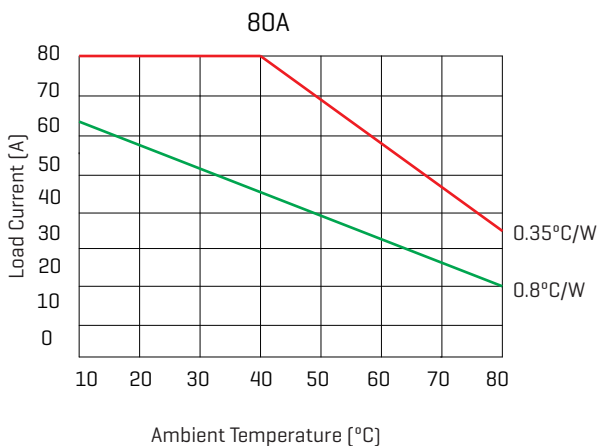
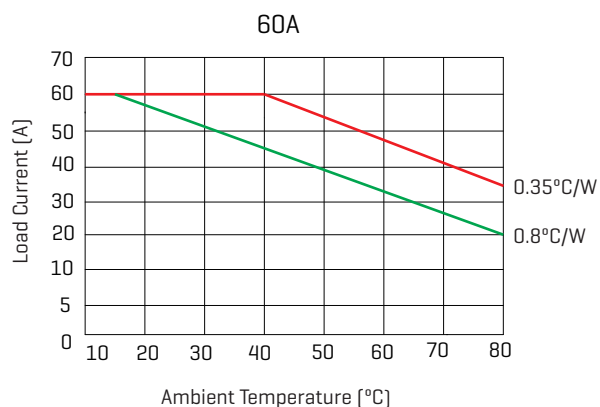
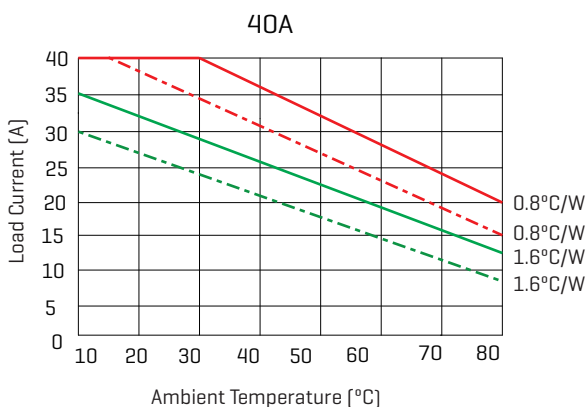
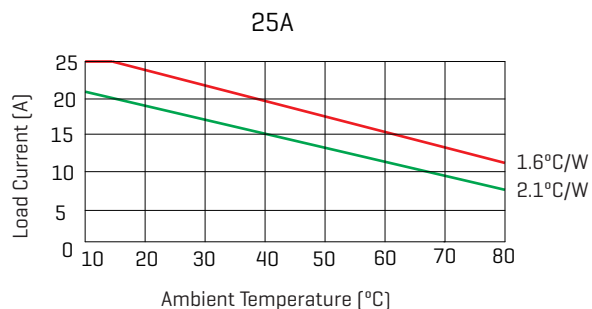
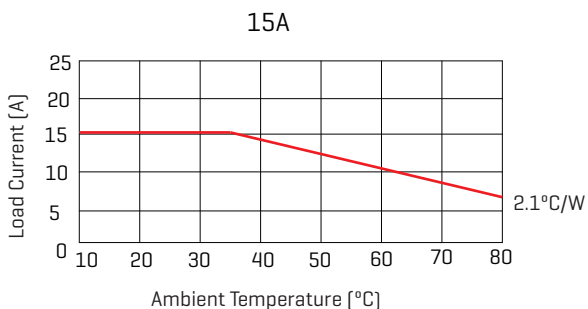
Wiring Diagram



Dimensions [mm]



Thermal Derating Curve



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General Notes

1. Relay must be mounted to proper sized heat sink based on thermal curves. Thermal grease or a thermal pad must be used between relay and heat sink and be torqued down to 11-16 /1.2-1.8in-lb/Nm.
2. When connection wiring to SSR, please ensure screws are torqued down properly (input 11-18 /1.2-2.0in-lb/Nm, output 18-26 / 2-3 in-lb/Nm).
3. SSR's carrying load capacity is related to the operation ambient temperature and heat dissipation condition, please refer to the Thermal Derating Curve for derating.

Warnings !

1. The product's side panels may be hot, allow the product to cool before touching.
2. Disconnect all power before installing or working with this equipment.
3. Verify all connections and replace all covers before turning on power.

